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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,037	04/15/2004	Mingliang Lawrence Tsai	30-4677 DIV-1 (4760)	9059
7590 01/26/2005			EXAMINER	
Roberts & Roberts, LLP Attorneys at Law P.O. Box 484 Princeton, NJ 08542-0484			ZACHARIA, RAMSEY E	
			ART UNIT	PAPER NUMBER
			1773	
DATE MAILED: 01/26/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/826,037	Applicant(s) TSAI ET AL.	
	Examiner Ramsey Zacharia	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 13-18, 20-24 and 26-33 is/are pending in the application.
4a) Of the above claim(s) 16-18, 20-24, 26 and 27 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9, 11, 13-15 and 28-33 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

2. Claims 16-18, 20-24, 26, and 27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 16 September 2004.

3. This application contains claims drawn to an invention nonelected with traverse in the reply filed on 16 September 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

4. Claims 1-9, 11, 13-15, and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (U.S. Patent 5,139,878) in view of Beer et al. (U.S. Patent 6,329,047).

Kim et al. teach a multilayer film comprising a fluoropolymer film, a thermoplastic polymer film, and an adhesive layer between each film. Homopolymers and copolymers of chlorotrifluoroethylene are preferred as the fluoropolymer material because they have

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exceptional gas and moisture barrier properties and outstanding transparency (column 3, lines 1-6). A suitable material for the adhesive layer is a polyolefin modified with a carboxylic acid or acid anhydride (column 4, lines 64-68). Maleic anhydride is the preferred anhydride (column 5, lines 22-23). The multilayer film can have a variety of structures including the five-layer structure: thermoplastic/adhesive/fluoropolymer/adhesive/thermoplastic (column 6, lines 42-54). The films may be formed by coextrusion (column 7, lines 1-14). The film may be heated and formed, i.e. thermoformed, into three-dimensional products (column 8, lines 18-22). The film may also be uniaxially or biaxially oriented (column 7, line 66-column 8, line 17).

Regarding claim 9, while Kim et al. do not explicitly teach an embodiment wherein the fluoropolymer layer has a second thermoplastic layer bonded to it, an embodiment having five layer is disclosed and it is explicitly taught that any variation on the order of the layers can be made. Therefore, it would have been obvious to one of ordinary skill to adhere a second fluoropolymer film to the thermoplastic layer in applications where additional gas and moisture barrier properties are desired for the final product.

Kim et al. do not teach the use of a cyclic polyolefin as the material for the thermoplastic polymer film. However, Kim et al. do teach any thermoplastic material may be used which features good strength and polyolefins are cited as among the preferred polymers (column 3, lines 7-40). Furthermore, Kim et al. explicitly teach that polyvinyl chloride (PVC) and polypropylene may be used as the thermoplastic material (column 3, line 27).

Kim et al. also do not teach the degree of uniaxial or biaxial orientation.

Beer et al. is directed to a packaging film suitable for use in blister packs (column 1, lines 62-67). The data presented in Table 1 of Beer et al. demonstrate that cyclic polyolefins provide

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better water vapor barrier properties than polyvinyl chloride (column 2, lines 60-65). Moreover, Beer et al. discloses that cyclic polyolefins have better processability in blister pack formation than polypropylenes (column 1, lines 37-47). Suitable cyclic polyolefins include from 0.1-100% of a cyclic olefin and 0-99.9% of an acyclic olefin (column 3, line 3-column 4, line 37).

Compositions comprising 100% cyclic olefin constitute cyclic olefin homopolymers while those comprising less than 100% cyclic olefin constitute cyclic olefin copolymers. A particularly preferred cyclic polyolefin is a copolymer of ethylene and norbornene (column 5, lines 19-20). Beer et al. further teach that monoaxially or biaxially orienting cyclic polyolefin films improves their processability and increases their puncture resistance (column 7, lines 27-49).

One of ordinary skill in the art would be motivated to use the cyclic polyolefin of Beer et al. as the thermoplastic of Kim et al., as opposed to a material such as polyvinyl chloride or polypropylene, to yield a laminate with improved water vapor barrier properties and good processability.

Regarding claims 6 and 7, while Beer et al. do not disclose a particular degree of orientation that should be used, the degree of orientation is taught to be a variable that affects the processability and puncture resistance of the resulting film (column 7, lines 27-49). That is, the degree of orientation is disclosed as a results effective variable. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the degree of uniaxial or biaxial orientation of the film, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

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Regarding claims 32 and 33, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the applicants to present evidence from which the examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown*, 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman*, 489 F. 2d 742, 180 USPQ 324 (CCPA 1974). This burden is NOT discharged solely because the product was derived from a process not known to the prior art. *In re Fessman*, 489 F. 2d 742, 180 USPQ 324 (CCPA 1974). Furthermore, the determination of patentability for a product-by-process claim is based on the product itself and not on the method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) and MPEP § 2113. In this case, although Kim et al. do not teach forming the film by first coextruding the fluoropolymer layer and the adhesive followed by attaching the other surface layer, the resulting product appears to be the same as the product defined by product-by-process claims 32 and 33. As such, the burden is on the applicants to conclusively demonstrate that the products are different.

Response to Arguments

5. Applicant's arguments filed 05 January 2005 have been fully considered but they are not persuasive.

The applicants argue that the Beer et al. reference does not show that COC has better water vapor transmission than PVC, but rather that a COC/PVdC bi-layer without an adhesive

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layer has better water vapor transmission than a PVC/PE tie layer/PVdC laminate. The applicant argues that the improvement in properties is likely due to the absence of the tie layer because it is well known that polyethylene adhesive tie layers cause a significant impact on the water vapor barrier properties of multilayer films. Thus, it is argued that the removal of the tie layer results in the increase in barrier properties.

This is not persuasive for the following reasons. First, the examiner disagrees with the assertion that it is well known that polyethylene adhesive tie layers cause a significant impact on the water vapor barrier properties of multilayer films. There is nothing in Beer et al. or on the record to suggest that polyethylene tie layers reduce the water vapor barrier properties of multilayer films. Second, Beer et al. teach that PVC have lower water vapor barrier properties (and thus are frequently coated with PVDC to increase water vapor barrier properties), as opposed to COC which are described as having good barrier properties (see column 1, lines 37-44). This runs counter to the applicants' argument that it is the tie layer which causes the reduced water vapor barrier properties.

The applicants also argue that neither Kim et al. nor Beer et al. individually teach the invention as claimed. However, since the claims were rejected over Kim et al. in view of Beer et al., one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The applicants further argue that the combination of Kim et al. and Beer et al. relies on improper hindsight reasoning because the applicants assert that only through their work was it

discovered that the claimed adhesive composition exhibits good bond strength between a fluoropolymer layer and a cyclic olefin polymer layer.

This is not persuasive because there is motivation in the prior art for the combination of the references. Kim et al. teach a multilayer film for blister packs that comprises a fluoropolymer layer, a functionalized polyolefin adhesive layer, and a thermoplastic layer (such as, e.g. polyolefins, polypropylene, PVC) and Beer et al. teach that cyclic olefins polymers have improved water vapor barrier properties are suitable for use in laminates for blister packs, and offer improvements over other thermoplastics such as polypropylene and PVC. Contrary to the applicants' assertion, one skilled in the art would presume that the adhesive of Kim et al. could be used to suitably adhere a fluoropolymer to a cyclic olefin polymer since the adhesive is used to adhere a fluoropolymer to a thermoplastic, such as a polyolefin, and a cyclic olefin polymer is both a thermoplastic and a polyolefin.

Regarding claims 6 and 7, the applicants argue that the impermissible "obvious to try" standard of patentability. This is not persuasive because Beer et al. teach that the degree of orientation is results effective variable that affects the processability and puncture resistance of the resulting film (see column 7, lines 27-49). The courts have held that the optimization of a results effective variable requires no more than routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
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